

## MULTIPLE CHAMBER CONDIMENT GRINDER

### BACKGROUND OF THE INVENTION

#### Field of the Invention

This invention relates to hand-held condiment grinders that include multiple  
5 chambers and a grinding actuating mechanism that will selectively actuate a grinder  
mechanism for each chamber.

#### Description of the Related Art

Hand-held condiment grinders are known. These grinders usually have a  
single chamber for holding only one condiment at a time, such as, peppercorns, salt, seeds  
10 or the like. One grinder of this type is shown in US Patent Nos. 4,697,749 and 4,573,244.  
Some grinders have more than one chamber to hold more than one condiment at the same  
time but these multiple chamber grinders require more complicated, separately actuated  
grinding mechanisms, each fully separate from the other so that two different grinding  
mechanisms and actuating mechanisms for those grinding mechanisms are required.

### 15 BRIEF SUMMARY OF THE INVENTION

This invention is a multiple chamber condiment grinder, preferably having  
two separate chambers, but in which a common grinding actuating mechanism is used by  
being selectively positioned over each chamber. In one embodiment, the grinding actuating  
mechanism is rotatably mounted to be rotated selectively over one or the other of the  
20 separate chambers. In another embodiment, a cam is moved to be selectively positioned  
over one or the other of the separate chambers. Other variations of the selective actuation  
of the grinding mechanism may also be employed.

### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of the grinder.

Figure 2 is a bottom view with parts broken away for clarity.

Figure 3 is a longitudinal section taken along the line 3-3 of Figure 2.

Figure 4 is a top view of the housing with the handles and internal parts removed for clarity.

5                   Figure 5 is a bottom view of the grinder.

Figure 6 is a longitudinal section taken along the line 6-6 of Figure 5.

Figure 7A is a front view of the rasp 18 forming part of the grinder. Figure 7B is a side elevation thereof. Figure 7C is a top view of the rasp. Figure 7D is an exploded view of a return spring for actuation of the rasp.

10                  Figure 8A is a front view of the rasp 16 forming part of the invention. Figure 8B is a side elevation thereof. Figure 8C is a top view of the rasp.

Figure 9A is a front view of a rasp retaining sleeve forming part of the invention. Figure 9B is an exploded side elevation thereof. Figure 9C is an exploded top view thereof.

15                  Figure 10 is a fragmentary view of another embodiment of the invention.

Figure 11 is a fragmentary detail of the embodiment of Figure 10.

## DETAILED DESCRIPTION OF THE INVENTION

As best shown in Figures 1, 2 and 6, the grinder includes a housing 10 formed from two joined halves 10a and 10b and having at least two chambers 12, 14. For  
20 the purpose of this invention it will be understood that two chambers will be used, however, more than two chambers are also possible. A first chamber 12 (Figure 6) may hold one condiment, such as, salt. A second chamber 14 may hold a second condiment, such as, peppercorns. Each chamber has a lower wall 13 and an upper wall 15. A first rasp 16 is positioned in the first chamber 12 and a second rasp 18 is positioned in the second  
25 chamber 14. Each rasp 16, 18 has teeth or spaced grinding edges 20 (Figures 7A and 8A) that are spaced from a shear block 23 and 23a mounted in the bottom wall of chambers 12 and 14, respectively.

Each of the shear blocks 23, 23a has a ramp 22 and a shearing edge 24, although other forms of a shearing surface are also contemplated. The shearing blocks can both be adjustably spaced from the teeth 20 of the rasp to control the size of the ground particles. The space between each of the rasps 16, 18 and the associated shearing edge 24  
5 defines a discharge gap 29 for discharging ground condiment. In the alternative, the shearing blocks 23, 23a for each chamber 12, 14 can be fixed to not adjust the size of the ground condiment. In the embodiment shown in the drawing, particularly Figures 5 and 6, one of the shear blocks 23a is made adjustable by an eccentric pin 26 that can be rotated by a knob 28. Rotation of the knob 28 will cause the shear block 23a to move toward or away  
10 from the rasp 18 to change the width of gap 29 between the block 23a and the rasp 18 and thus control the size of the ground condiment. This is particularly desirable for peppercorns as users often have different preferences for the size of the ground pepper.

The rasps 16 and 18 extend up through the top wall 15 of the chambers 12, 14 and are spaced from one another, as shown in Figure 6. One rasp 18 has a fork with  
15 arms 19 (Figures 7B and 7C) forming a space therebetween and extending out toward the other rasp 16. The other rasp 16 has a tongue 21 (Figures 8A and 8C) extending out therefrom and positioned in the space between the arms 19 of the fork. Both the arms 19 and the tongue 21 lie over a spring chamber. As best seen in Figures 6 and 7D, a spring 36 is positioned on a pin 38 having a flat enlarged cap 40. The bottom of the spring rests on a  
20 boss 39. As can be readily seen, if rasp 18 with the fork is moved downwardly, the spring 36 can be depressed without effecting the rasp 16 with the tongue 21 and vice versa. Thus, the rasps 16, 18 can be selectively actuated to grind the condiment in one chamber 12, 14 or the other.

The tops of the rasps 16, 18 extend up through the top wall 15 of the  
25 chambers 12, 14 and are engageable by a cam 50. The cam 50 may be formed on the end of an arm 48 formed on a movable handle 46. In this embodiment a second handle 47 is provided. The handles have a circular flange 60 (Figure 3) that rides in a circular groove 62 formed in a collar 63 attached to the top walls of the chambers. In a preferred embodiment, the collar 63 is made of Delrin®, a hard and low friction form of plastic, or other plastic or

metal. In the illustrated embodiment, the handles are rotated 180 degrees to selectively position the cam 48 over either the rasp 16 or the rasp 18. Thus, if the cam 50 is positioned over the rasp 16, for example, movement of the movable handle 46 toward the opposite handle 47 will move the cam 50 downwardly, thus pushing the rasp 16 only downwardly to  
5 grind the condiment in that chamber 12. The rasp 18 of the other chamber 14 will not be moved. By rotating the handles 46, 47 in the circular groove 62 to the opposite position, the cam 50 will actuate only the rasp 18.

In a preferred embodiment, detents 66 (Figure 4), spaced 180 degrees from each other, are formed on the top flange 67 of the collar 63. Mating indents 68 are formed  
10 180 degrees apart in a groove 69 in the handles. As the handles are turned about the longitudinal axis of the housing, their indents move from one detent position, engaging detents 66, to the other detent position, again engaging detents 66, after 180 degrees of rotation. The indents 68 and mating detents 66 releasably hold the handles in one of their two operating positions while the grinder is being used.

15 As best seen in Figures 1, 3 and 6, a transparent window 110 is provided in a bottom region of handle 47. As best seen in Figures 3 and 6, collar 63 is provided with a protrusion 111 extending upward from an upper region of collar 63. In a preferred embodiment, the name 112 of a first condiment is provided on one side of the protrusion, and the name of a second condiment (not shown) is provided on the opposite side of the  
20 protrusion, such that the two names are circumferentially spaced on the protrusion by 180 degrees. The protrusion 111 is aligned with the window 110 of the handle, such that the name of the condiment is visible through the window 110, and corresponds to the condiment that will be ground given the position of the handle. When the handles are rotated 180 degrees to the alternative operating position, the window 112 is then aligned  
25 with the name of the second condiment, corresponding to the condiment in the second chamber. In this manner, a user may simply look at the window 110 to determine the position of the handle and hence which condiment will be ground when the handle 46 is actuated. It will be understood that the names of any two condiments may be provided on the protrusion 111 of collar 63, although in a preferred embodiment, the collar 63 is marked

with the words "salt" and "pepper." If desired, a second window (not shown) may be provided on the handle 47 opposite window 110 to continuously display a desired element, for example, a company logo.

Each rasp is guided in the housing by flanges 90 and 91 (Figure 3). The tops  
5 of the rasps are guided by a rectangular sleeve 99 (Figure 6), and shown in exploded view in Figures 9A-9C. The sleeve is formed of two parts 102 having guide walls 103 for slidably retaining the rasps when the sleeve is attached within the housing. Alternatively, the sleeve 99 may be formed as an integral piece. Receptacles 105 in the housings for pins 104 position the sleeve in fixed position in the housing 10.

10 In another embodiment, as shown in Figures 10 and 11, a cam 70 is attached to a square pin 72 that rides in a slot 74 of a movable handle 76. An adjustment rod 78 passes into the handle and is attached to the pin 72. The pin 72 is conventional of two pieces with a spring pushing them apart in a conventional manner as a detent. The ends of the pin 72 are rounded to fit into two detents or dimple positions 77 at opposite ends of the  
15 slot 74 to selectively provide for positioning the cam over one or the other of the rasps 16 or 18. Thus, the rod 78 can be moved in one direction to position the cam 70 over the rasp in one of the chambers. In the alternative, the rod can be moved in the opposite direction to position the cam over the other rasp in the other chamber. In the same manner as described above, when one of the rasps is moved downwardly by the movement of the moveable  
20 handle, the other rasp is unaffected.

As shown in the Patent No. 4,697,749, the details of the disclosure of which are incorporated herein by reference thereto, each chamber will be provided with an access door 80 for filling the condiment in that chamber. Also the two halves are aligned by pins on one half with mating holes in the other half and then fused together by sonic welding or  
25 any other well known method.

More than one embodiment of the invention is shown and described it being understood that other equivalent embodiments not shown will be apparent to one skilled in the art. Thus, the invention is not to be limited to the embodiments shown in the drawings.